

REMARKS

The Office Action dated January 12, 2009, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

By this Response, claims 1, 19, 25, 27, 34 and 36 have been amended to more particularly point out and distinctly claim the subject matter of the present invention. No new matter has been added. Claim 35 has been cancelled without prejudice or disclaimer. Accordingly, claims 1-2, 4, 6-14, 16-19, 21-34, and 36-39 are currently pending in the application, of which claims 1, 19, 34, and 36 are independent claims.

In view of the above amendments and the following remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections to the claims for the reasons discussed below.

Specification Objection

The specification was objected to as allegedly failing to provide proper antecedent basis for the claimed subject matter, in particular, the phrase “a computer readable medium” in claim 34. Applicants have amended claim 34 to recite a “computer-readable **storage** medium” (emphasis added). Support for these amendments may be found in the specification, for example, at Figure 1, which discloses servers 104 and 106. One of ordinary skill in the art would appreciate that each of the servers is typically equipped with a “computer-readable storage medium,” for example, a memory. Accordingly,

Applicants respectfully submit that this objection is moot in view of the claim amendments, and respectfully request that this objection be withdrawn.

Claim Rejection - 35 U.S.C. 101

Claims 19, 21-33, and 35-39 were rejected under 35 U.S.C. 101 as allegedly being directed to non-statutory subject matter, specifically, “software per se” (*see* Office Action at page 3, item 5). Applicants respectfully traverse this rejection, at least in part.

With respect to claims 19 and 21-33, Applicants have amended independent claim 19, upon which claims 21-33 depend, and dependent claim 25 to recite hardware, in particular, a “processor.” Accordingly, Applicants respectfully submit that the rejection of claims 19 and 21-33 is moot in view of the claim amendments, and respectfully request that the rejection of claims 19 and 21-33 be withdrawn.

With respect to claim 35, Applicants have cancelled claim 35 without prejudice or disclaimer. Accordingly, Applicants respectfully submit that the rejection of claim 35 is moot in view of the claim cancellation, and respectfully request that the rejection of claim 35 be withdrawn.

With respect to claims 36-39, the Office Action asserted the specification at page 2 discloses that the claimed invention can implemented with hardware, software, or a combination of both. The Office Action then, in effect, argued that because one of the examples includes software only, the claimed invention is based on non-statutory subject matter in the broadest embodiment. The rejection of claims 36-39 applies the wrong

standard. The claims may be construed in light of the specification, but the descriptions of the embodiments from the specification cannot properly be read into the claims. The specification, even in the quoted part, does not refer to the claimed invention but the background of the invention. Finally, the appropriate test for whether a claim is non-statutory is not whether it includes any non-statutory subject matter within its scope, but whether it only includes non-statutory subject matter within its scope. Thus, Applicants respectfully submit that the rejection of claims 36-39 is improper, and accordingly, Applicants respectfully requests that the rejection of claims 36-39 be withdrawn.

Reconsideration and allowance of claims 19, 21-33, and 36-39 are, therefore, respectfully submitted.

Claim Rejection - 35 U.S.C. 103

Claims 1-2, 4, 6-14, 16-19, and 21-39 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 6,415,323 of McCanne et al. (“McCanne”) in view of U.S. Patent No. 7,155,515 of Brown et al. (“Brown”) and further in view of U.S. Patent No. 6,854,013 of Cable et al. (“Cable”). The Office Action acknowledged that McCanne fails to disclose or suggest all of the features of the rejected claims, and cited Brown and Cable to remedy the deficiencies of McCanne with respect to the rejected claims. Applicants respectfully submit that each of claims 1-2, 4, 6-14, 16-19, 21-34, and 36-39 recites subject matter that is neither disclosed nor suggested in the combination of McCanne, Brown, and Cable. Claim 35 has been cancelled without

prejudice or disclaimer. Accordingly, Applicants respectfully submit that the rejection of claim 35 is moot in view of the claim cancellation, and respectfully requests that the rejection of claim 35 be withdrawn.

Independent claim 1, upon which claims 2, 4, 6-14, and 16-18 depend, is directed to a method including providing a service with a service process in a server. The method also includes configuring a service-specific anycast address to a server interface on a communication link via which the server receives messages from a router or other servers. The method further includes monitoring the service process and the service-specific anycast address configured interface. The method additionally includes scheduling the service process and a need for an advertisement message. The scheduling is configured to take advertisement messages received to the service-specific anycast address from other servers into account in determining the need for an advertisement message. The method also includes sending an advertisement message when the service process provides the service via the communication link to all other servers in response to the scheduling.

Independent claim 19, upon which claims 21-33 depend, is directed to an apparatus including a service process configured to provide service on a communication link via which a server is configured to receive messages from a router or other servers. The apparatus also includes a service-specific anycast address configured to a server interface on the communication link. The apparatus further includes a processor configured to monitor the service process and the service-specific anycast address

configured interface, and to schedule the service process and a need for an advertisement message. The processor is configured to take into account in determining the need for an advertisement message advertisement messages received to the service-specific anycast address from other servers. The apparatus additionally includes a transmitter configured to send an advertisement message when the service process provides the service via the communication link to all other servers in response to the scheduling of the processor.

Independent claim 34 is directed to a computer-readable storage medium encoded with instructions configured to control a processor to perform a process, the process including providing a service with a service process in a server. The process also includes configuring a service-specific anycast address to a server interface on a communication link via which the server receives messages from a router or other servers. The process further includes monitoring the service process and the service-specific anycast address configured interface. The process additionally includes scheduling the service process and the need for an advertisement message. The scheduling is configured to take advertisement messages received to the service-specific anycast address from other servers into account in determining the need for an advertisement message. The process also includes sending an advertisement message when the service process provides the service via the communication link to all other servers in response to the scheduling.

Independent claim 36, upon which claims 37-39 depend, is directed to an apparatus including a service process configured to provide service on a communication

link via which a server is configured to receive messages from a router or other servers. The apparatus also includes a service-specific anycast address configured to a server interface on the communication link. The apparatus further includes monitoring means for monitoring the service process and the service-specific anycast address configured interface. The apparatus additionally includes service scheduling means for scheduling the service process and a need for an advertisement message. The service scheduling means are configured to take into account in determining the need for an advertisement message advertisement messages received to the service-specific anycast address from other servers. The apparatus also includes sending means for sending an advertisement message when the service process provides the service via the communication link to all other servers in response to the scheduling of the service scheduling means.

Applicants respectfully submit that the combination of McCanne, Brown, and Cable fails to disclose or suggest all of the features of any of the presently pending claims.

McCanne describes a proximity-oriented redirection system for service-to-client attachment in a virtual overlay distribution network. The virtual overlay distribution network includes addressable routers for routing packet traffic. A packet of data is routed from a source node to a destination node based on address fields of the packet. The invention includes a redirector coupled to at least one of the addressable routers and includes: logic for accepting a service request from a client; logic for determining a selected server for handling the service request, the selected server being one of a

plurality of servers that can handle the service request; and logic for generating a redirection message directed to the client for redirecting the service request to the selected server (*see* McCanne at Abstract).

Brown describes a method and system for distributing work load in a cluster of at least two service resources. Depending upon the configuration, a service resource may be an individual process, such as a single instance of a computer game, or a node on which multiple processes are executing, such as a Server. Initial connection requests from new clients are directed to a single entry-point service resource in the cluster, called an intake. A separate intake is designated for each type of service provided by the cluster. The clients are processed in a group at the service resource currently designated as the intake to which clients initially connected, for the duration of the session. Based upon its loading, the current intake service resource determines that another service resource in the cluster should become a new intake for subsequent connection requests received from new clients. Selection of another service resource to become the new intake is based on the current work load of each resource in the cluster. All resources in the cluster are periodically informed of the resource for each service being provided that was last designated as the intake, and of the current load on each resource in the cluster. Subsequently, new clients requesting a service are directed to the newly designated intake for that service and processed on that resource for the duration of the session by those clients (*see* Brown at Abstract).

Cable describes a method of distributing server load in an IP network, including building an association between a subscriber edge device and a server controller using a packet switched network Quality of Service mechanism. A fair share of server bandwidth is offered out to the subscriber edge device, and a resource request from the client is directed, via the subscriber edge device and through a server controller, to a server having an amount of server bandwidth required by the client. The required fair share of server bandwidth is then reserved for meeting the client's resource request. The invention also proposes a subscriber edge device, a data center device, and a communications network including each. The subscriber edge device includes, a resource requester for sending a request to the server controller associated with the source location of the requested resource, a resource reserver that reserves an amount of bandwidth using a Quality of Service mechanism and releases any unneeded bandwidth, and a resource returner that returns the requested resource to the client. The data center device includes, a resource allocator that allocates fair shares of server bandwidth to the network, and a server controller that offers fair shares of server bandwidth using a Quality of Service mechanism (*see* Cable at Abstract).

Applicants respectfully submit that the combination of McCanne, Brown, and Cable fails to disclose or suggest all of the features of any of the presently pending claims. Specifically, Applicants respectfully submit that the combination of McCanne, Brown, and Cable does not disclose or suggest, at least, “scheduling ... a need for an advertisement message,” as recited in independent claim 1 and similarly recited in the

other independent claims. The Office Action appears to assert that these features are disclosed by McCanne at column 7, lines 34-40 (*see* Office Action at page 4, lines 13-14). In the cited portion, McCanne refers to server devices that advertise reachability, and that utilize the advertisements to reflect sever availability.

However, McCanne fails to disclose or suggest scheduling a need of the advertisements of McCanne. Accordingly, McCanne does not disclose or suggest, at least, “scheduling ... a need for an advertisement message,” as recited in independent claim 1 and similarly recited in the other independent claims. In particular, McCanne refers to the server devices of McCanne advertising reachability, as discussed above, but fails to disclose or suggest the server devices determining when the advertisements need to be sent. Accordingly, McCanne does not disclose or suggest the advantage of the claimed invention to “prevent too frequent ... message sending [by delaying] its own sending if necessary” (*see* Specification at paragraph 18).

Brown and Cable fail to cure the deficiencies of McCanne. Brown refers to resources that are periodically informed of the resource for each service being provided, and of the current load on each resource, but does not disclose or suggest the advertisement message of the claimed invention. As clearly supported in the specification, the advertisement message of the claimed invention indicate the capacity to offer services (*see* Specification at paragraph 17). Cable refers to servers that advertise its available bandwidth and/or capacity, and to a server controller that advertises the aggregate unused capacity of the servers (*see* Cable at column 4, lines 30-44). However,

Cable fails to disclose or suggest that the advertisements of Cable are scheduled to be sent at a time when they are needed. Specifically, Cable does not disclose or suggest the servers of Cable determining when their advertisements should be sent, and refers to the server controller advertising immediately after receiving the advertisements of the servers (*see* Cable at column 4, lines 39-44). Accordingly, the combination of McCanne, Brown, and Cable fails to disclose or suggest, at least, “scheduling ... a need for an advertisement message,” as recited in independent claim 1 and similarly recited in the other independent claims.

Furthermore, the combination of McCanne, Brown, and Cable does not disclose or suggest, at least, “wherein the scheduling is configured to take advertisement messages received to the service-specific anycast address from other servers into account in determining the need for an advertisement message,” as recited in independent claim 1 and similarly recited in the other independent claims. The Office Action acknowledged that the combination of McCanne and Brown fails to disclose or suggest these features, and cited Cable to remedy the deficiencies of the combination of McCanne and Brown (*see* Office Action at page 5, line 18, to page 6, line 16). Specifically, the Office Action asserted that these features are disclosed by Cable at column 4, lines 31-43. In the cited portion, Cable refers to servers that advertise its available bandwidth and/or capacity, and to a server controller that takes this information into account and that advertises the aggregate unused capacity of the servers.

However, Cable fails to disclose or suggest that the server controller of Cable is configured to take the advertisements received from the servers into account in determining the need for the advertisements of the server controller. Accordingly, Cable does not disclose or suggest, at least, “wherein the scheduling is configured to take advertisement messages received to the service-specific anycast address from other servers into account in determining the **need** for an advertisement message,” (emphasis added) as recited in independent claim 1 and similarly recited in the other independent claims. In contrast, Cable refers to the server controller of Cable that is configured to take the advertisements received from the servers into account in determining the **content** for the advertisements of the server controller, in particular, the aggregate unused capacity of the servers. As clearly supported in the specification, the advertisement message of the claimed invention is needed to be scheduled when a received packet is a service-specific Neighbour Advertisement (NA) message (*see* Specification at paragraph 59, and Figure 4).

In addition, as discussed above, Cable fails to disclose or suggest the scheduling of the claimed invention. Accordingly, the combination of McCanne, Brown, and Cable does not disclose or suggest, at least, “wherein the scheduling is configured to take advertisement messages received to the service-specific anycast address from other servers into account in determining the need for an advertisement message,” as recited in independent claim 1 and similarly recited in the other independent claims.

For at least the reasons discussed above, Applicants respectfully submit that the combination of McCanne, Brown, and Cable fails to disclose or suggest all of the elements of independent claims 1, 19, 34, and 36. Accordingly, Applicants respectfully request that the rejections of independent claims 1, 19, 34, and 36 be withdrawn.

Claims 2, 4, 6-14, 16-18, 21-33, and 37-39 depend from, and further limit, independent claim 1, 19, and 36. Thus, each of claims 2, 4, 6-14, 16-18, 21-33, and 37-39 recites subject matter that is neither disclosed nor suggested in the combination of McCanne, Brown, and Cable. Accordingly, Applicants respectfully request that the rejection of claims 2, 4, 6-14, 16-18, 21-33, and 37-39 be withdrawn.

Reconsideration and allowance of claims 1-2, 4, 6-14, 16-19, 21-34, and 36-39 are, therefore, respectfully submitted.

Conclusion

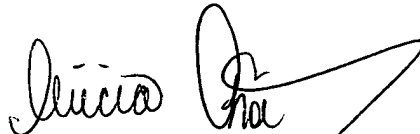
For at least the reasons discussed above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is thus respectfully requested that all of claims 1-2, 4, 6-14, 16-19, 21-34, and 36-39 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by

telephone, Applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Alicia Choi', is written over a horizontal line.

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